## REMARKS

This Amendment is submitted in response to the Office Action dated January 29, 2007, having a shortened statutory period set to expire April 29, 2007. The present amendment **amends** Claims **8-11** and **adds** Claims **16-19**. Upon entry of the proposed amendments, Claims **1-19** will be pending.

Applicants appreciate the time and courtesy extended by the Examiner during an April 25, 2007 teleconference. While no formal agreement was reached, the conversation is believed to have been most helpful in addressing key issues related to the present prosecution. If the Examiner believes that further communication would be beneficial to the prosecution of the present application, Applicants' undersigned legal representative would appreciate a telephone call to (512) 617-5533.

### Claim Rejections Under 35 U.S.C. § 101

In paragraph 3 of the present Office Action, Claims 8-11 are rejected under 35 U.S.C. 101 as being directed to non-statutory subject matter. In response, Applicant has amended Claims 8-11 to affirmatively recite a "computer-readable medium" as an element of each claim in order to place Claims 8-11 in statutory form and thereby overcome the rejection.

### Claim Rejections Under 35 U.S.C. § 102

In paragraph 5 of the present Office Action, Claims 1-3 are rejected under 35 U.S.C. § 102(b) as being anticipated by *Bergsten et al.* (U.S. Patent No. 6,363,462 – "*Bergsten*"). Applicants respectfully traverse all rejections.

Regarding the rejection of Claim 1 as anticipated by *Bergsten*, the cited art does not disclose, teach or suggest "interrogating a logical partition of a sparse logical volume to determine if said logical partition contains valid data", as recited in Claim 1. *Bergsten* contains no teaching of a sparse logical volume which, as described at p. 6, lines 17-19 of the present specification, is a logical volume in which "only the portion of a logical volume in-use at any given time is actually

allocated on a physical volume" (see also p. 7, lines 10-13; and p. 9 lines 21-25). In addition, the "standard checks" cited by Examiner as teaching the interrogating step are actually hardware checks of a physical disk, not an interrogation of a logical partition of a logical volume as claimed. These checks (shown in FIG. 6 of *Bergsten*) are not performed to "determine if said logical partition contains valid data". The "standard checks" taught in *Bergsten* are performed to determine if the physical disk is present and operating correctly. In contrast, the "interrogation" of Claim 1 determines if valid data is stored in a logical partition ("in-use"), or if the partition does not contain valid data ("not in-use"). *Bergsten* contains no such teaching or suggestion. Since the element of "interrogating a logical partition of a sparse logical volume to determine if said logical partition contains valid data" is not taught in *Bergsten*, then the two elements of Claim 1 that occur in response to the interrogation are likewise not taught. Consequently, the rejection of Claim 1 and its dependent claims under 35 U.S.C. §102 in view of *Bergsten* is overcome.

In paragraph 6 of the present Office Action, Claims 4-15 are rejected under 35 U.S.C. § 102(e) as being anticipated by *Olson et al.* (U.S. Patent No. 7,127,633 – "*Olson*"). Applicants respectfully traverse all rejections.

Regarding the rejection of Claims 4, 8 and 12 as anticipated by *Olson*, the cited art does not disclose, teach or suggest "interrogating a partition within said sparse logical volume". As cited by Examiner, *Olson* teaches a RAID system that keeps track of which physical drives correspond to a particular virtual RAID device (col. 7, lines 14-21). *Olson* contains no teaching of a sparse logical volume which, as described at p. 6, lines 17-19 of the present specification, is a logical volume in which "only the portion of a logical volume in-use at any given time is actually allocated on a physical volume". Examiner also cites *Olson* at col. 21, lines 17-24, which teaches:

> The resource manager then sends to all slave controllers in the VCG a message indicating the new physical disk ID of the hot spare. Each slave controller, and the master controller is [then responsible for moving any data they control which is] affected by the failure, to the hot spare as is typically done in the vent of provisioning a hot spare in a single-controller SAN.

The above disclosure is cited as teaching the interrogation step and the two response steps of Claims 4, 8 and 12. However there is no teaching of "interrogating a partition within a sparse logical

volume" following the replacement of a damaged physical drive. Furthermore, in response to the interrogation step, *Olson* does not teach "copying said partition to said replacement physical volume" only if the partition is allocated.

All rejected claims remaining depend directly or indirectly from independent claims 1, 4, 8 and 12. Applicants therefore respectfully submit that all claims are allowable in view of the Examiner's cited references for the reasons adduced above, as well as for their own limitations. Claims 16-19 have been added and are patentable over both *Bergsten* and *Olson.*

## CONCLUSION

As the cited prior art does not teach or suggest all of the limitations of the pending claims, Applicants now respectfully request a Notice of Allowance for all pending claims.

No extension of time for this response is believed to be necessary. However, in the event an extension of time is required, that extension of time is hereby requested. Please charge any fee associated with an extension of time as well as any other fee necessary to further the prosecution of this application to **IBM CORPORATION DEPOSIT ACCOUNT No. 09-0447.**

Respectfully submitted,

Brian F. Russell
*Registration No. 40,796*
DILLON & YUDELL LLP
8911 North Capital of Texas Highway
Suite 2110
Austin, Texas 78759
512.343.6116

ATTORNEY FOR APPLICANT(S)